Quick Reference Guide
What's New in Excel 2013 for Windows

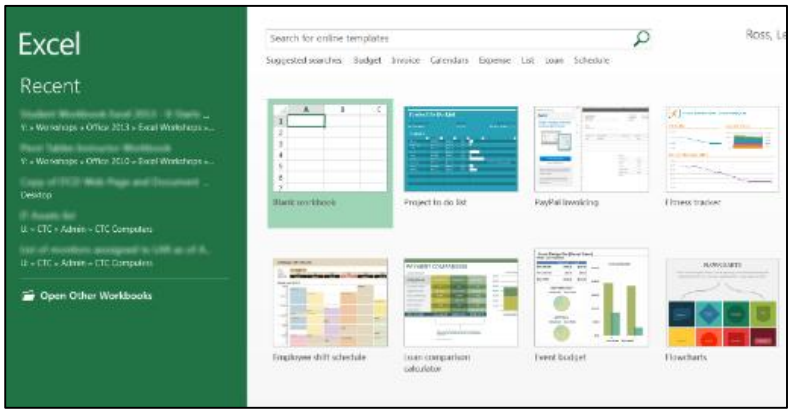
General Enhancements

User Interface

- Excel 2013 is tablet (touch and stylus) friendly, Touch Mode compatible for Windows 8 users and includes a built-in handwriting recognition software for touch-screens.
- Although the 2013 Office suite is integrated with Cloud-like computing and OneDrive, this integration has been disabled at NASA.
- The user interface display includes a flatter look to the Ribbons and subtle animations when typing or selecting text.

New Start Experience

Excel 2013 includes a new start experience (shown right) allowing the user to open recent files, start a new document from a template or open other files.



This behavior can be controlled by the user by enabling or disabling the option **Show the Start screen when this application starts**. By default, this setting is enabled.

1. To adjust this behavior, click the **File Tab | Options | General**.
2. Click the checkbox to enable/disable **Show the Start screen when this application starts**.

File Sharing

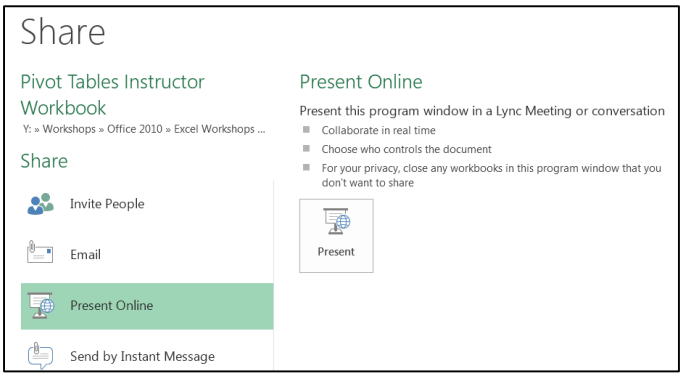
The new integrated sharing features for saving files to the Office OneDrive location without attaching the document to email or using Cloud Connect services have been disabled at NASA.

Lync Integration

Lync is fully integrated making it easy to present an open document in an online meeting room.

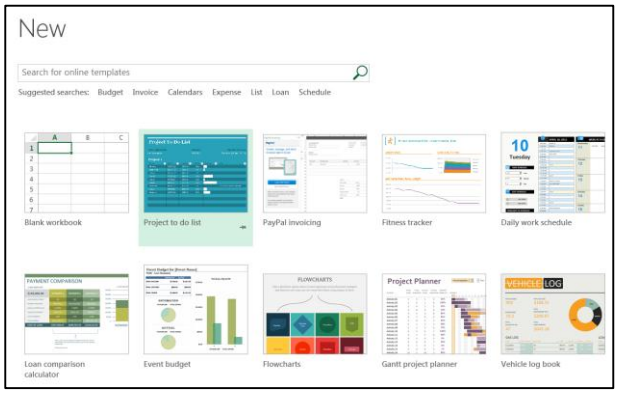
1. Click **File Tab | Share**. The *Share* options display (shown right).
2. Click **Present Online** to establish a Lync meeting room with the shared file presented using document sharing.

- Click **Send by Instant Message**. Select the recipient from the Global Address List and then type a message to the recipient. Click **Send IM**.



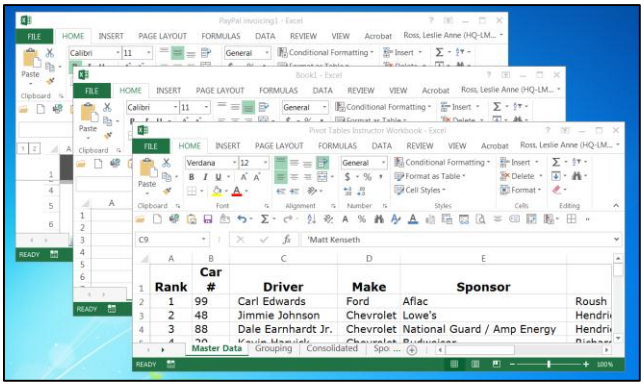
Templates

- New templates have been added for budgets, calendars, forms, reports, etc.



Multiple Windows for Open Files

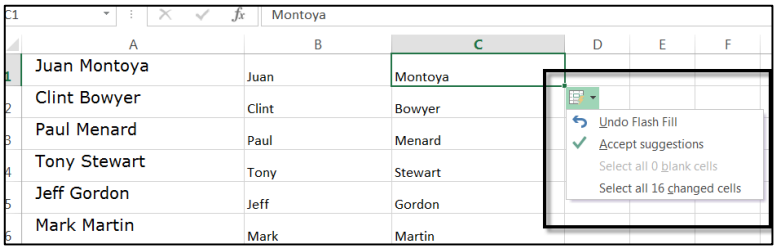
- Each workbook now has its own window, making it easier to work with two workbooks and multiple monitors.



Flash Fill

Like AutoFill, **Flash Fill** recognizes patterns in data and fills in remaining cells automatically, if allowed. Use **Flash Fill** to fill out data based on an example. **Flash Fill** typically starts working when it recognizes a pattern in your data, and works best when your data has some consistency. When entering data, you might notice that Excel fills values automatically as it detects a pattern.

- In this example, the **Flash Fill** was used to enter the last names from Column A into Column C without manually typing.
- Enter the appropriate data for the column to be filled and click **Data Tab | Flash Fill**. Excel will auto populate the column with suggested data.

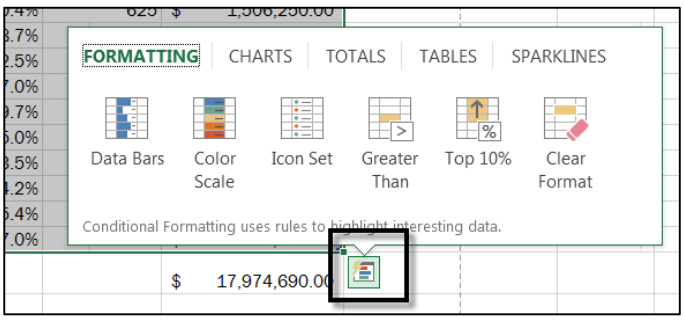


- Click the **Flash Fill Options** button (shown above) to **Undo Flash Fill**, **Accept suggestions**, or **Select the changed cells**.

Quick Analysis

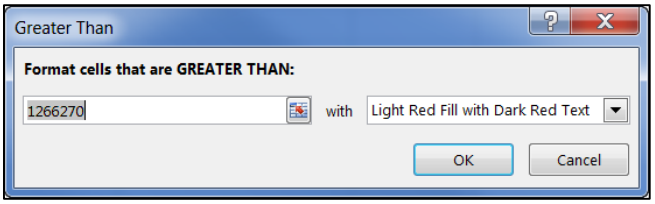
In Excel 2013, some frequently used, but hard to find, commands and buttons are now on a **Quick Analysis** drop-down menu. When you select data on your worksheet, the **Quick Analysis** button appears. **Quick Analysis** is a contextual tool that provides single-click access to data analysis tools, such as:

- **Formatting**: Preview and apply some of Excel's most popular conditional formats.
- **Charts**: Preview and apply specific chart structures.
- **Totals**: Preview and insert basic calculations like sum, count, average, and so on.
- **Tables**: Preview pivot tables.
- **Sparklines**: Preview and insert Sparkline graphics.



Example: Apply conditional formatting for values greater than a specified amount.

1. Select the data range to be analyzed.
2. Click the **Quick Analysis** button which displays at the end of the selected data (shown upper right).
3. Click **Formatting | Greater Than**. The *Greater Than* dialog box displays (shown right).



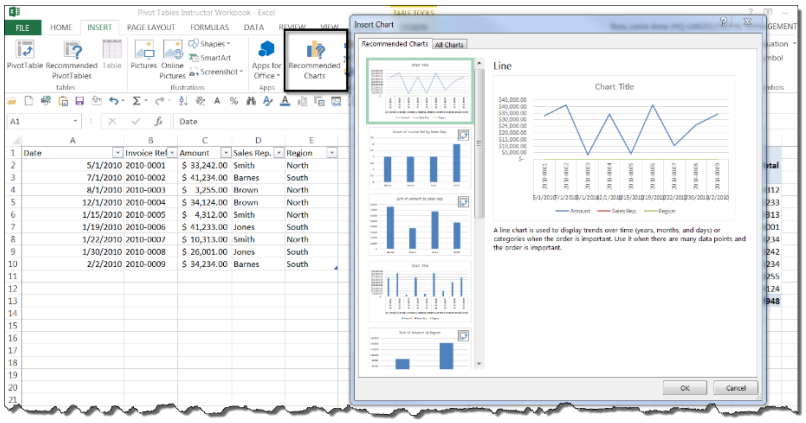
4. Enter a value or select a cell from the data as the value and click the drop-down arrow to select the appropriate formatting.
5. Click **OK**. The formatting will apply to your data according to the set conditions.

Recommended Charts and Recommended PivotTables

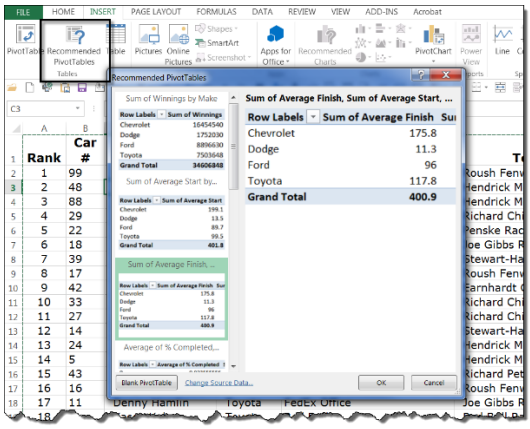
New **Quick Analysis** tool lets users convert data into a chart or table in two steps. Preview data with conditional formatting, Sparklines, or charts, and accept the recommended chart, etc. in one click.

- Use this new feature to have Excel analyze the data and recommend the most suitable charts for the selected data.
- **Recommended Charts** and **Recommended PivotTables** provide a preview (shown below) to display the selected data in different chart styles or with different data pivoted, making it easy to pick the appropriate one.

Recommended Charts



Recommended PivotTables



Combo Charts

Combo Charts can now be created easily using the new button for Combo Charts.

- View animation in charts when making changes to source data. The movement in the chart makes the changes in your data much clearer.

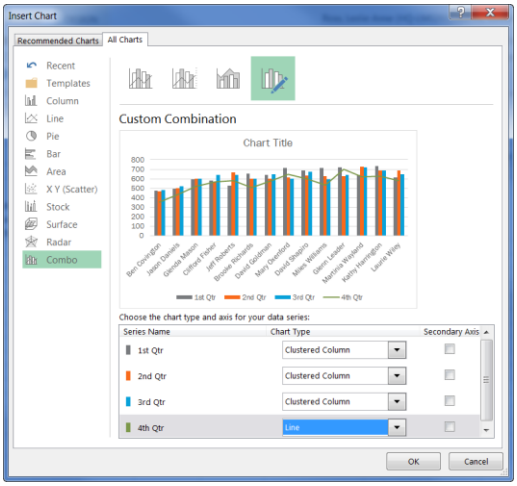
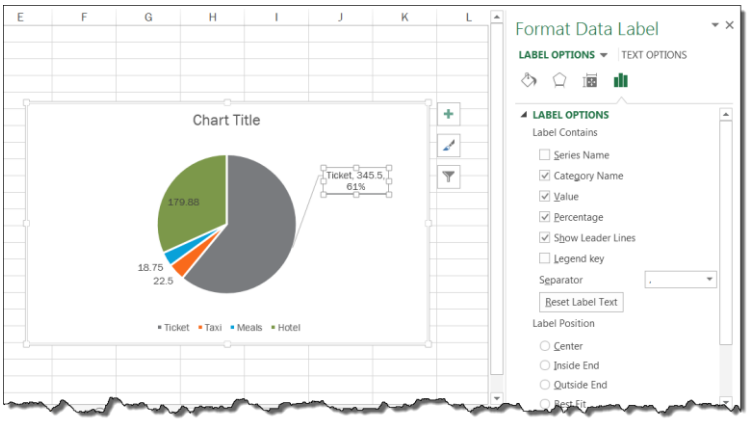


Chart Data Labels

Chart Data Labels can now be enhanced with object formatting for the fill color, border and effects.

- Include rich and refreshable text from data points or any other text in the data labels.
- Data labels stay in place, even when users switch to a different type of chart.
- Can connect them to their data points with leader lines on all charts, not just pie charts.



- Charts now include buttons to refine the Chart Elements, Styles and Filters.

Chart Elements

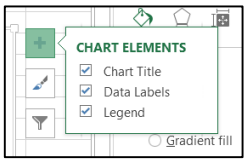


Chart Styles

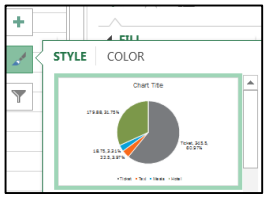
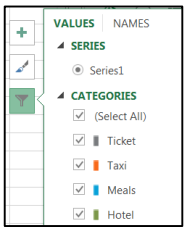


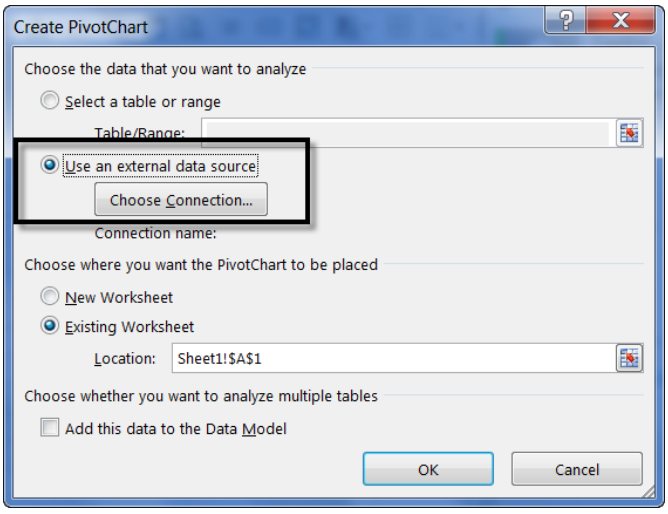
Chart Filter



PivotCharts

A PivotChart no longer has to be associated with a PivotTable. A standalone or de-coupled PivotChart lets the user experience new ways to navigate to data details by using the new Drill Down and Drill Up features. It's also much easier to copy or move a de-coupled PivotChart.

1. Click **Insert | PivotChart**. The *Create PivotChart* dialog box displays.
2. Click **Use an external data source**, and then click **Choose Connection**. The *Existing Connections* dialog box displays.
3. On the **Connections tab**, double-click the connection you want or click **Browse for More** to locate and select the external data file.
4. Click **OK**. An empty PivotChart appears and the **Field List** is shown so you can add or rearrange fields in your PivotChart.
5. In the **Field List**, pick the fields you want to show in the PivotChart.

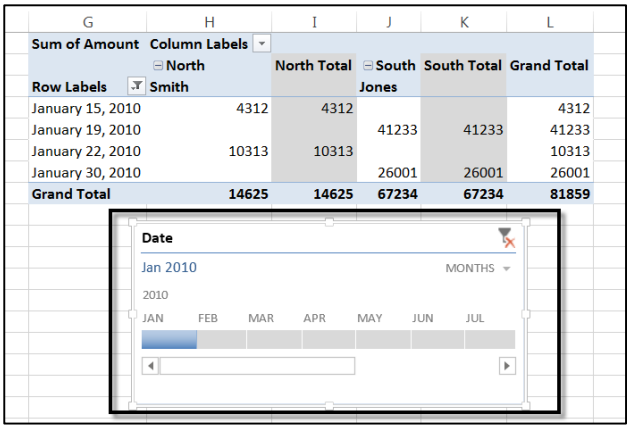


PivotTables

- Excel 2013 enhanced the Field List tools making it easier to find the fields to include in the PivotTable layout.
- It is now easy to create a new table from an existing PivotTable by clicking the **MORE TABLES** button in the Field List (shown right).

Timeline Tools

A timeline makes it simpler to compare your PivotTable or PivotChart data over different time periods. Instead of grouping by dates, users can filter dates interactively or move through data in sequential time periods, like rolling month-to-month performance, in just one click.

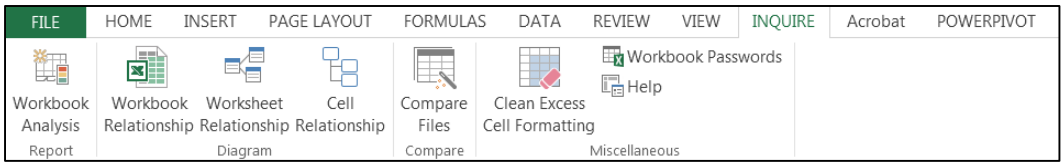


1. Click on the table to be used as the data for the timeline.
2. Click **Insert | Timeline**. The *Insert Timelines* dialog box displays with options for types of timelines.
3. Click to select the desired timeline type and click **OK**. The Timeline is inserted (shown right).

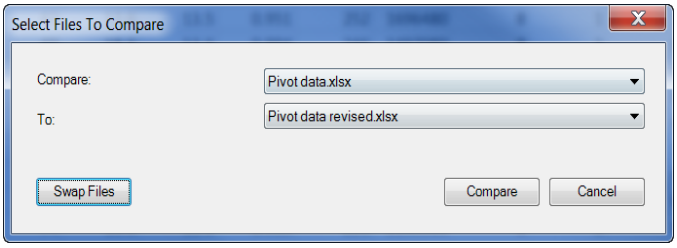
- A **Timeline Tools Tab** displays (shown below) with options to change the style, size and elements included in the Timeline.

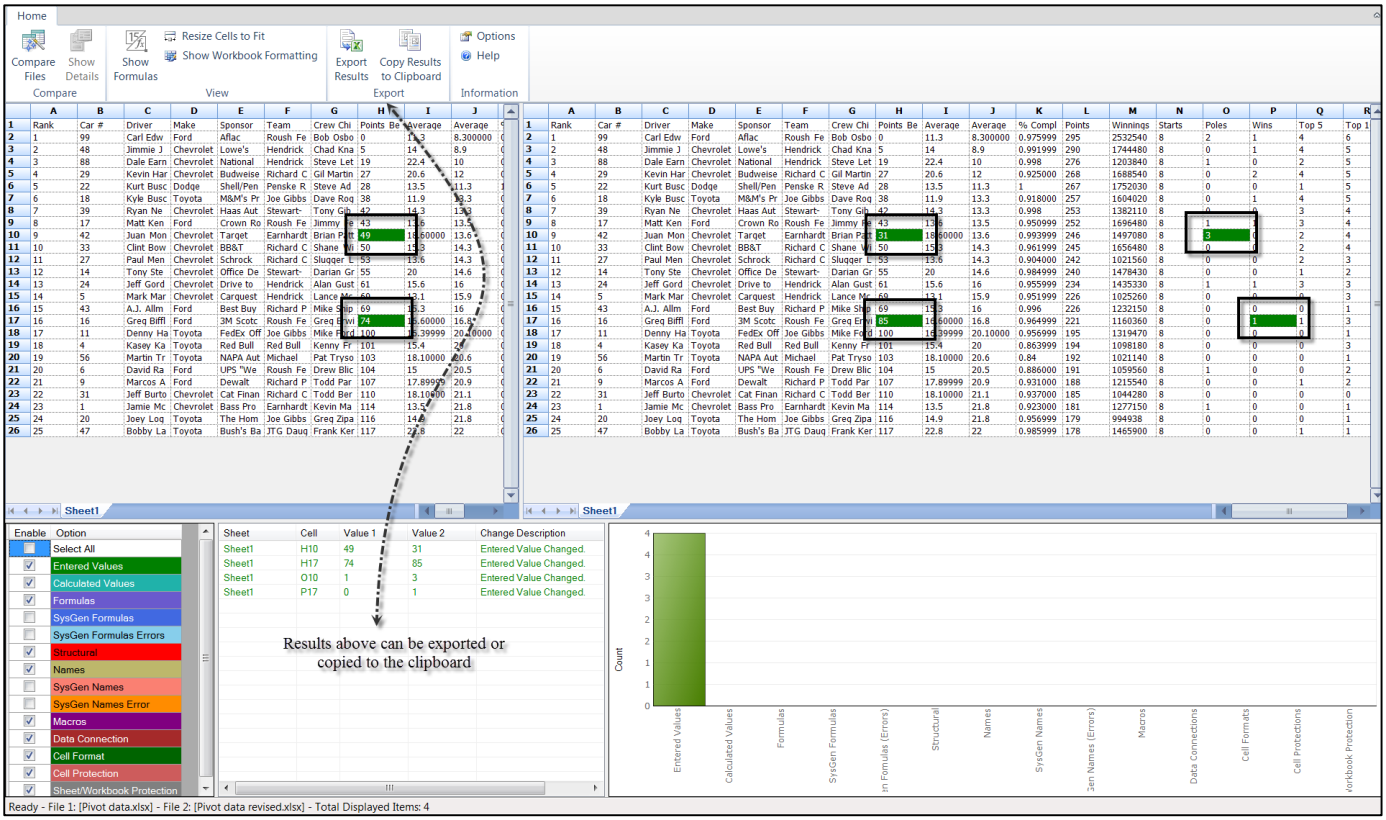
- To remove the Timeline, right-click on the Timeline and click **Remove Timeline**.

Comparing Two Workbooks using the Inquire Add-In



1. Open the two workbooks to be compared.
2. From one of the two files, click **Inquire tab | Compare Files.** The *Select File to Compare* dialog box displays (shown right).
3. Ensure the correct files are selected. If not, click the drop-down arrow for the **Compare** and **To** fields and select the correct files.
4. Click **Compare**. The *Spreadsheet Compare* screen displays (shown below).





New Functions Available in Excel 2013

FUNCTION NAME	TYPE AND DESCRIPTION
ACOT function	**Math and trigonometry:** Returns the arccotangent of a number
ACOTH function	**Math and trigonometry:** Returns the hyperbolic arccotangent of a number
ARABIC function	**Math and trigonometry:** Converts a Roman number to Arabic, as a number
BASE function	**Math and trigonometry:** Converts a number into a text representation with the given radix (base)
BINOM.DIST.RANGE function	**Statistical:** Returns the probability of a trial result using a binomial distribution
BITAND function	**Engineering:** Returns a 'Bitwise And' of two numbers
BITLSHIFT function	**Engineering:** Returns a value number shifted left by shift_amount bits
BITOR function	**Engineering:** Returns a bitwise OR of 2 numbers[TJD(MI1]
BITRSHIFT function	**Engineering:** Returns a value number shifted right by shift_amount bits
BITXOR function	**Engineering:** Returns a bitwise 'Exclusive Or' of two numbers
CEILING.MATH function	**Math and trigonometry:** Rounds a number up to the nearest integer or to the nearest multiple of significance

COMBINA function	**Math and trigonometry:** Returns the number of combinations with repetitions for a given number of items
COT function	**Math and trigonometry:** Returns the hyperbolic cosine of a number
COTH function	**Math and trigonometry:** Returns the cotangent of an angle
CSC function	**Math and trigonometry:** Returns the cosecant of an angle
CSCH function	**Math and trigonometry:** Returns the hyperbolic cosecant of an angle
DAYS function	**Date and time:** Returns the number of days between two dates
DECIMAL function	**Math and trigonometry:** Converts a text representation of a number in a given base into a decimal number
ENCODEURL function	**Web:** Returns a URL-encoded string
FILTERXML function	**Web:** Returns specific data from the XML content by using the specified XPath
FLOOR.MATH function	**Math and trigonometry:** Rounds a number down to the nearest integer or to the nearest multiple of significance
FORMULATEXT function	**Lookup and reference:** Returns the formula at the given reference as text
GAMMA function	**Statistical:** Returns the Gamma function value
GAUSS function	**Statistical:** Returns 0.5 less than the standard normal cumulative distribution
IFNA function	**Logical:** Returns the value you specify if the expression resolves to #N/A, otherwise returns the result of the expression
IMCOSH function	**Engineering:** Returns the hyperbolic cosine of a complex number
IMCOT function	**Engineering:** Returns the cotangent of a complex number
IMCSC function	**Engineering:** Returns the cosecant of a complex number
IMCSCH function	**Engineering:** Returns the hyperbolic cosecant of a complex number
IMSEC function	**Engineering:** Returns the secant of a complex number
IMSECH function	**Engineering:** Returns the hyperbolic secant of a complex number
IMSINH function	**Engineering:** Returns the hyperbolic sine of a complex number
IMTAN function	**Engineering:** Returns the tangent of a complex number
ISFORMULA function	**Information:** Returns TRUE if there is a reference to a cell that contains a formula
ISOWEEKNUM function	**Date and time:** Returns the number of the ISO week number of the year for a given date
MUNIT function	**Math and trigonometry:** Returns the unit matrix or the specified dimension
NUMBERVALUE function	**Text:** Converts text to number in a locale-independent manner
PDURATION function	**Financial:** Returns the number of periods required by an investment to reach a specified value

PERMUTATIONA function	**Statistical:** Returns the number of permutations for a given number of objects (with repetitions) that can be selected from the total objects
PHI function	**Statistical:** Returns the value of the density function for a standard normal distribution
RRI function	**Financial:** Returns an equivalent interest rate for the growth of an investment
SEC function	**Math and trigonometry:** Returns the secant of an angle
SECH function	**Math and trigonometry:** Returns the hyperbolic secant of an angle
SHEET function	**Information:** Returns the sheet number of the referenced sheet
SHEETS function	**Information:** Returns the number of sheets in a reference
SKEW.P function	**Statistical:** Returns the skewness of a distribution based on a population: a characterization of the degree of asymmetry of a distribution around its mean
UNICHAR function	**Text:** Returns the Unicode character that is referenced by the given numeric value
UNICODE function	**Text:** Returns the number (code point) that corresponds to the first character of the text
WEBSERVICE function	**Web:** Returns data from a web service
XOR function	**Logical:** Returns a logical exclusive OR of all arguments

Working with Excel Files in Other Versions

What if …	*Result …*	*Action to Take …*
You open a workbook that was created in an earlier version of Excel.	The file opens in Compatibility Mode and the words [Compatibility Mode] display next to the file name on the title bar. Excel keeps the file in the original format. When you save the workbook, Excel will tell you about compatibility issues if you've used new features that aren't supported in earlier versions of Excel. Compatibility Mode ensures no new features in Excel 2013 are available in the workbook, so that people using earlier versions of Excel can work with it.	If you're not sharing the workbook, convert it to the Excel 2007-2013 file format (*.xlsx) to take advantage of all new Excel 2013 features (click **File | Info | Convert**). Work in Compatibility Mode or convert the file to the new format. To convert the document, click **File Tab | Info | Convert**. Converting the file allows those with Excel 2013 to work with the new features. However, those using earlier versions of Excel may experience issues editing parts of the document.

You choose to save the workbook as an Excel 2013 file.	Excel saves the workbook in the Excel 2007-2013 file format (*.xlsx) so the editor can use all new Excel 2013 features. FYI … Excel 2003 users need the free Compatibility Pack. A prompt to download the pack displays when Excel 2003 users open the file.	To share an Excel 2013 document with someone using an earlier version of Excel, run the **Compatibility Checker** tool to ensure the file will work properly. To check which new features will not work in earlier versions, click **File Tab | Info | Check for Issues | Check Compatibility.** The **Compatibility Checker** provides a tool to see the issues in the workbook and resolve them before sharing the workbook.
You choose to save the workbook as an Excel 97-2003 file.	Excel automatically checks the file for compatibility issues and displays them for any new Excel 2013 feature you used.	Assess any compatibility issues and resolve them before sharing the workbook.